

Towards Developing Sustainability with an Islamic Formula Financing Mechanism for Agricultural Startups

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Abstract :

the objective of this study is to propose a new agricultural startup participatory Islamic financing mechanism to increase the sustainability of the agricultural sector. By studying the features and requirements of these enterprises, a financing model was suggested that involves innovation as an active partner in the partnership equation, thus addressing the traditional risks restricting the role of banks. This mechanism allows banks to share risks with startups whose technologies can reduce water consumption and yield high crops, thus confirming the validity of the hypothesis, the study proved. The model is cited as a base for developing sustainable financing to achieve food security and serve developmental goals; thus, the study advises adopting such a model.

Keywords: Financing Mechanism, Agricultural Startups, Islamic Formulas, Sustainability.

Jel Classification Codes: G20, Q14, G29, Q01.

1. INTRODUCTION

Agriculture remains the backbone of developing economies, ensuring rural development and food security, yet it faces major challenges such as fragile production systems, irregular seasons, and climate change. These issues demand flexible and efficient funding solutions. Agricultural start-ups emerge as vital actors with innovative technologies, but their main obstacle is the lack of financing adapted to their high-risk nature. Islamic finance offers a potential alternative through its principles of partnership, profit-sharing, and linkage to real economic activity, making it more compatible with such ventures. However, Islamic banks have shown reluctance due to high risks and monitoring complexities. This highlights the need to reassess and adapt Islamic financial instruments to support agricultural sustainability while fulfilling Sharia's economic objectives.

Research Question:

From the aforesaid, the following research question can be raised: What are the main Islamic financing modes that agricultural institutions can rely on to achieve sustainability?

Hypothesis:

Based on the problem statement, this research proposes the following hypothesis: The mechanism for financing agricultural startups based on Islamic participatory formulas serves towards achieving the sustainability of the agriculture sector through risk sharing, encouraging innovation, and improving performance of the agricultural investment.

Study Objectives:

This research project has the following theoretical and practical goals:

- Examine agricultural start-ups in their financing needs, specificities and roles brought to the sector.
- Identify the appropriate Islamic modes of financing for entrepreneurship of agricultural sector.
- Suggest an operational model for a new Islamic financing instrument, which includes start-ups as active partners within contracts and which is presented based on use-case simulation ("Oasis of the Future").

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- Highlight the impact of this model on agricultural sustainability and the balance between economic efficiency and Sharia compliance.

Significance of the Study:

Three layers have been involved in this study:

This study is important in the fusion of three levels:

On a theoretical front: it aims at contributing to the body of knowledge in Islamic economics literature by making a relationship between Islamic finance, entrepreneurial agricultural practices, and sustainability, which is seldom tackled in an integrated manner.

From an Applied Aspect: The study adopts an applicable framework for the Islamic banks as it restored unused financing instruments and compatible them with the needs of the modern agricultural innovation and production.

From a social viewpoint: the newly proposed model supports the regions social model by helping local smallholdings, promoting eco-innovation in the agricultural field, and generating high-quality added-value work. It also brings young people and university graduates to become part of the productive economic cycle as well as introducing that strength for the benefit of the community in modern technologies that contribute to the improvement of food quality and efficiency, thus accompanying food security and quality of livelihoods.

1.2 LITERATURE REVIEW

Here's a brief summary in a few lines, and leaving the citations to the researchers, because this is a literature review: Studies such as Haddadi Abdellatif et al. (2024) and Lamia Haouam (2021) focused on the contribution of Islamic finance to startups in formulas, such murabaha, musharakah, and Islamic crowdfunding, but ignored agriculture. In the agricultural domain, Mohammad Hakimi Mohd Shafiai and Mohammed Rizki Moi (2015), Muhammad Izzat Mohamed and Shafiai (2021) and Mahmoud Gulaid (2021) brought the relevance of traditional contracts and solidarity-based tools to the forefront, but did not contemplate startups as direct banking customers. Umrotul Khasanah (2022) and Muhammad Yasir Yusuf (2025) associated innovation in Islamic finance with agriculture innovation, yet they lacked a holistic framework for new venture

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development. Finally, Lucky Nugroho et al. (2018) emphasized on integrating sustainability dimensions in Islamic finance but they do not have sectorial focus on the agricultural sector and start-ups. Current research in Islamic finance almost entirely missed agricultural start-ups and concentrated on SMEs, urban businesses or on agriculture as a sector. Few offer practical means that are especially adapted for the risk, seasonality, and technology-intensive character of start-ups. Given these non-existing applied mechanisms, a research gap is evident.

1.3 Agricultural Startups: Characteristics and Financing Needs

Definition and Characteristics

The term “startup” is made up of “start” and “up” that implies making a strong departure. Its use dates back to the end of WWII and the

emergence of the capitalist companies. They are modern companies established by business pioneers to develop a product or a service. In addition, it is a small project that has just started. Besides, Larousse Dictionary defines a startup as a young innovated company in the sector of modern technologies. On the other hand, Paul Graham sees that it is a company that has been designed to grow rapidly (Houria, 2023).

On the other hand, innovative agricultural companies are those that use advanced technologies (such as artificial intelligence, the Internet of Things, smart greenhouses, vertical farming, farm management applications, post-harvest processing solutions, blockchain for product tracking, and better seed development methods) These Start-ups are positioned to revolutionize the entire agriculture value chain, offering innovative tools and platforms that promise to enhance productivity, sustainability, and profitability for farmers (Priya, 2023). Their most important characteristics are as follows:

- **Sustainability and Innovation**

focuses on creating a balanced system where production needs are met without exhausting natural resources. This approach integrates management techniques that promote soil health, conserve water, and reduce dependence on chemical inputs. (Saladi, 2025)

- **Outstanding Results and Development Possibilities**

They perform better than conventional farming, garner policy interest during emergencies, and exhibit robust scalability for broader social and economic effects. (Kawasaki, 2015)

- **Multidisciplinary Teams:** Highly qualified employees are a knowledge base of the company, a source of ideas and inspiration for innovations.

- Knowledge Conversion into Practice

Training has a positive effect on increasing human knowledge and awareness of the various changes taking place around. Since knowledge is a base for generating new knowledge that is an essential step in innovation . (Umidjon, 2014)

- **High-Risk Capital:** Most startups fail , few are relatively successful , and even a few bring expressive returns .(Júnior, 2023)
- Their reliance on cutting-edge technologies necessitates substantial early-stage funding as well as a wide range of management, technology, and agricultural expertise (Marinov, 2019).

- Economic Structural Change

They promote structural change, lessen sector vulnerability, and increase agrarian resilience by formally recognizing traditional and family farming practices. (arrouf.radia, 2025)

Their Significance in the Field of Agriculture

as they can: increase the efficiency of resource use; optimize local and global food markets, and prevent negative environmental spillovers, hence contributing to food security and the sustainability of food systems. For example, digital agriculture is seen as enabling more optimal and timely applications of fertilizers and water, and a way to become more resilient to climate change and to maintain yields. (Laurens Klerkx, 2023)

Needs for Funding: Startups in agriculture have particular funding needs:

- **Venture capital** is used to fund innovative concepts with potentially unpredictable outcomes. (Bangshi, 2023)
- **Long-Term Financing:** To support the phases of expansion, model testing, and research and development. (Priyanka Runach, 2023)
- **Non-Traditional Guarantees:** Intangible guarantees, like those about technology or intellectual property, are common.
- **Need for Agri-tech-savvy Financiers:** The bank needs to be well-versed in startup business models and agricultural technology. (Bousacour, June 2024)

1.4 Opportunities and Difficulties of Islamic Financing Formulas for Agricultural Startups

The best financing models for agricultural startups are Islamic ones, particularly those that use profit-and-loss sharing. But in order to overcome certain obstacles, their use needs to be modified.

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Appropriate Islamic Financing Formulas (With the Startup as the Client):

- **Al-Musharakah:** This formula is one of the best since it divides the startup's and bank's capital, profit, and loss according to predetermined percentages. The startup's agricultural project is partially funded by the bank, whether it is for the establishment of a smart farm, the development of agricultural technology, or the management of a production project using its technologies.
- **Diminishing al-Musharakah:** The bank may purchase a portion of the startup's agricultural project assets, which the startup will progressively purchase from the bank until it has complete ownership of the assets.
- **Al-Mudarabah:** The startup contributes the effort, management, and technical know-how (mudarib) for the agricultural project, while the bank supplies the capital (rabb al-mal). Profits are distributed based on a predetermined percentage, but unless the startup was negligent, the bank is responsible for the full financial loss. Startups with an idea and experience but no funding can use this formula.
- **Al-Salam (Forward Sale):** The bank can sign an al-Salam contract with an agricultural startup that produces a crop or an agricultural service (such as providing a certain amount of a certain crop with a specified quality). The startup delivers the product later, and the bank pays the entire amount up front. This formula gives the startup the cash it needs to pay for its initial production expenses.
- **Al-Ijarah:** For a fixed rent, the bank can buy agricultural assets (like greenhouses, smart irrigation systems, or contemporary farm equipment) and lease them to the startup.
- **Al-Istisna'a:** Subject to certain conditions, the bank may enter into a contract with the startup to manufacture or develop a particular agricultural product (such as creating a new seed variety or an integrated agricultural system), with payments made either in installments or at the time of delivery. (Laifa, 2024)

Banks face obstacles when it comes to funding agricultural startups, particularly those using musharakah formulas:

- **Startups Are at High Risk:** The identified risks of a startup must be properly assessed. This valuation is mostly done by investors for

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financing and valuation purposes. (Mustafa Karaarslan, May 2023)

- **Risks to the agricultural sector:** 1) production, 2) market, 3) institutional, 4) personal (also called human or idiosyncratic), and 5) financial. The first four of these risks are business risks and in important ways are independent of financial risks associated with how a farm may be financed. (Komarek, 2020)
- **Project evaluation is challenging** :Efforts state that smallholder farmers are failing to adopt modern technologies due to lack of technical knowledge about technologies, high costs in acquiring technologies, and physical accessibility of technologies. (Ali, 2025)
- **Banks' Historical Reluctance to Form Partnerships:** In practice they do not adopt it as the main one Financing plans. By far non-participatory arrangements, especially Murabaha, and leasing are the most widespread financing methods around the world. (Nouman, No.1 2018)

2. METHODOLOGY

This study, which aims to create an integrated financing framework for agricultural startups in light of Islamic financing formulas, is classified as a descriptive-analytical and constructive study. To better understand the financing realities faced by these startups and to suggest a suitable financing model that complies with Sharia law and addresses the unique features of agricultural innovation, a mixed-methodology approach comprising description, analysis, and inductive reasoning was employed.

The literature and earlier research on Islamic finance, agriculture, and entrepreneurial endeavors were reviewed in the first stage using the analytical method. The emphasis was on the possible connection between these startups' innovative value and their role in mitigating financing risks associated with the agricultural industry. The research gap, which is the lack of Islamic financing mechanisms created especially for agricultural startups as direct clients, was identified thanks to this analysis.

The features of agricultural startups and their funding requirements were then examined using the descriptive method. Additionally, the available Islamic formulas and their potential for adaptation within the agricultural entrepreneurial context were reviewed. Despite their jurisprudential legitimacy, the description also clarified the practical

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difficulties Islamic banks face when implementing agricultural partnership formulas.

Ultimately, the constructive-inductive approach was used to create a suggested model that combines the demands of Islamic finance and the objectives of sustainable agriculture on the one hand, with startups' capacity to control risks and boost output on the other. This model is based on integrating the startup into flexible contractual formulas in a direct relationship with the Islamic bank, such as al-Musharakah (partnership), al-Mudarabah (profit-sharing), al-Salam (forward sale), or al-Istisna'a (manufacturing contract). This relationship governs the relationship between the contracting parties from a balanced Sharia and developmental perspective, taking into account the distribution of roles and returns.

3. RESULTS

This section presents the main findings of the study, which culminate in a proposed model for a financing mechanism for agricultural startups based on Islamic formulas, without the presence of an intermediary (farmer) in the traditional sense.

3.1 Proposed Model for Islamic Financing Mechanism for Agricultural Startups

This model presents an integrated vision for how Islamic banks can directly finance agricultural startups, focusing on the role of innovation in risk management and enhancing project sustainability.

The Two Main Parties in the Model:

- **The Islamic Bank(Funder and Partner):** Offers the financing.
- **Agricultural startups(Client, Innovator, and Implementer):** Have the idea, the technology or the innovative agricultural model, and in charge of managing and operating the agricultural project.

Proposed Model Financing Models for Ag Startups:

The model depends on the combination of several Islamic financing modes to give a complete financial plan that is compatible with the characteristics of the farming start-ups.

Step 1: Analysis of the Startup and its Innovation Project:

The Islamic bank carries out a detailed feasibility for the new start-up and its ground-breaking agricultural project. This includes:

- **Technical feasibility:** Technical feasibility evaluates whether the proposed project can be successfully implemented using existing technologies, assets, and expertise. The goal here is to **help decision-makers understand the technical viability and potential risks** associated with the project. Understanding technical limitations upfront allows for better planning, realistic timelines, and smarter resource allocation.
- **Financial Feasibility :**The financial feasibility study determines whether the project is economically viable. Even if an idea is technically possible, it has to make financial sense – otherwise, it's a risky investment. Here, you should do the cost-benefit analysis of the project's potential revenue, expenses, potential cost overrun and profitability to determine if it's financially sound. This involves creating detailed financial projections and ROI calculations, which help you make informed decisions about whether to proceed with the project.
- **Market Feasibility:** Market feasibility evaluates the potential demand for your proposed product or service within the target market. This preliminary study focuses on assessing the economic conditions for the project and its long-term growth potential. (Jurčić, 2025)
- **Operational Feasibility :**This section evaluates the day-to-day operations, including: Business location and logistics ,Supply chain management ,Staffing and management structure.
- **Legal and Regulatory Feasibility :**Every business must comply with legal and regulatory requirements. This section includes: Business registration and licensing ,Industry-specific regulations ,Intellectual property rights (if applicable)
- **Risk Assessment and Mitigation :**Identifying potential risks and having a plan to manage them is essential. Common risks include: Market competition ,Financial instability ,Operational challenges . (bravaconsultancy, 2025)
- ✓ **Objective:** Have reassurance on that the innovative project has a good basis to mitigate risks related to agricultural business and to increase the

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confidence of the bank. The following figure illustrates this:

Fig.1. shows the evaluation and feasibility study of an agricultural startup project.



Source: Jurčić, M. (2025, March 12). What Is a Feasibility Study and How To Make One? Retrieved from productive: <https://productive.io/blog/feasibility-study/>

Step 2: Selecting the Primary Islamic Financing Formula (Based on the project's nature):

A) If focus is more on direct agricultural production(smart farm):

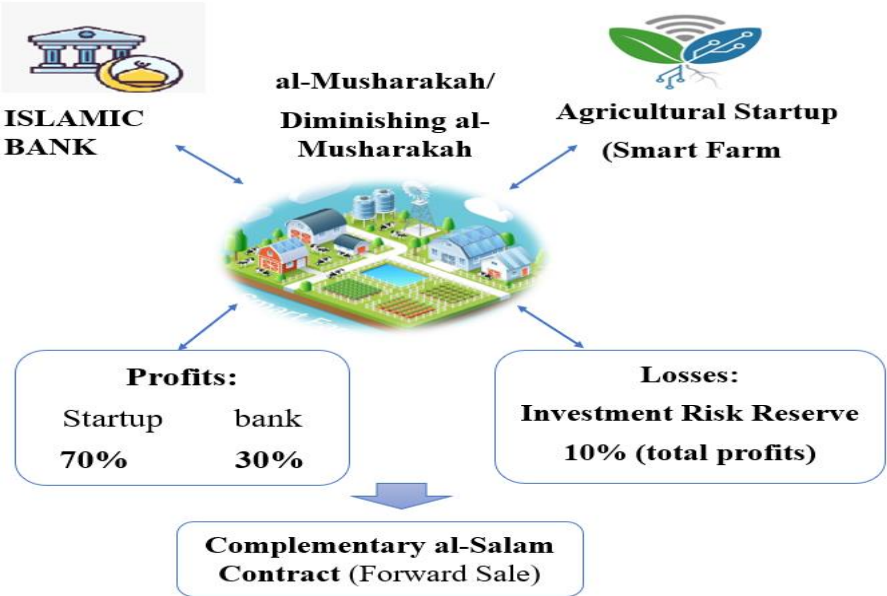
Some variants of Sharia-compliant income-sharing-based formulas are al-Musharakah and Diminishing al-Musharakah.

- **Use case:** The bank shares with the startup three things: the ownership of assets – including land, greenhouses, smart irrigation systems, equipment – and operating capital.
- **Profit share:** As per joint discretion (of the amount). For instance, the startup can be paid 70% of the profits and the bank 30%, taking into account the managerial effort of the startup and its additional innovative

contribution.

- **Losses The project's financial:** Losses are covered through an Investment Risk Reserve, built up by collecting the 'Shareholders' 5% input'.
- In the case of employing Diminishing al-Musharakah, which in the long run will eventually turn the startup to the full owner of the project, then this reserve, if not paid to cover real losses, will stick with the bank even though it has waived off its own share in the assets. This way, there is a percentage interest for the bank to enjoy on the amount that was accrued in previous years. (Khasanah, 2022)
- **Startup's added value:** It is managing the project, with new technologies, in a way that maintains production efficiency, reduces the risk, and hence, protects the bank from part of the risk.
- **Complementary al-Salam Contract:** To pre-purchase the anticipated harvest, the bank may sign a different al-Salam (Forward Sale) contract with the startup. This guarantees that the produce will be sold and gives the bank more liquidity when it matures. As seen in the following figure, this lowers marketing risks.

Fig.2. For Direct Agricultural Production Projects.



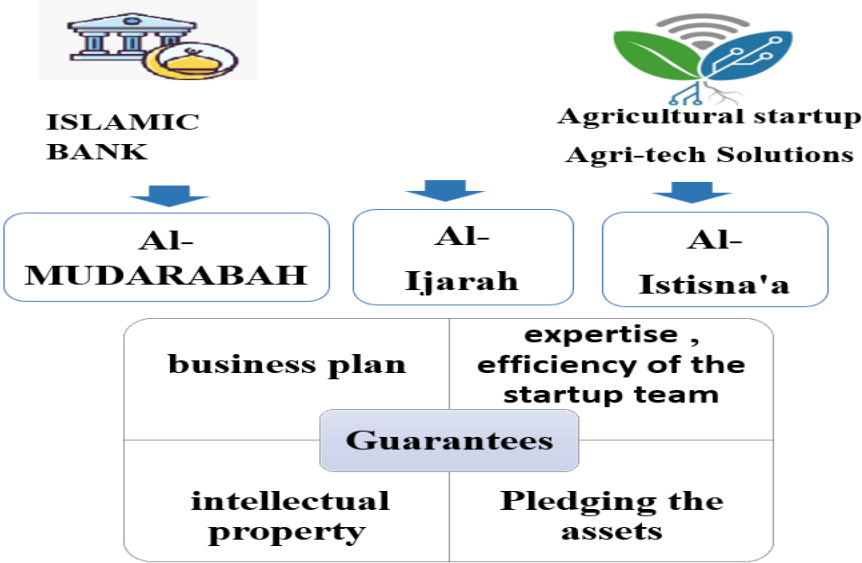
Source :Prepared by the researchers

B) If the project will develop and or market technical/service solutions to farmers (Agri-Tech Solutions):

The ideologically correct ones are: al-Mudarabah (Profit-Sharing), al-Ijarah (Leasing), or al-Istisna'a (Manufacturing Contract).

- **Al-Mudarabah:** The bank is the financier (rabb al-mal) and the start-up company is the manager (mudarib) to develop or supply new agricultural technology. We then share in the profits from this technology sale or associated services.
 - **Al Ijarah:** It is when the bank buys new technological facilities or agricultural systems (all required by the startup for service provision) and gives them on lease to the startup, while the bank knows exactly the rent.
 - **Al-Istisna’a:** The bank transacts with the startup about designing or constructing a fully-integrated agriculture system (e.g., a smart vertical farm system) based on an agreed-upon set of specifications, with periodic (stage) payments.
- ❖ **Guarantees:** As opposed to traditional guarantees, the bank can be left with :
- Scrutinizing the business plan and the viability of the project.
 - How capable and efficient is the startup team.
 - The patent value or the intangible value of technologies employed.
 - Putting up assets being financed (like equipment or systems).

Fig.3. Agricultural Startups specializing in (Agri-Tech Solutions).



Step 3: Action, Monitoring, and Evaluation

Up to this point, the Sharia-compliant contracts have been signed and the implementation stage is acting. The startup gets the funding and begins to deploy its technical solutions on the project.

In exchange, the bank will take over to monitor the implementation of the project, not only financially, but also technologically and operationally in order to make sure that the innovative technologies are put to good use and will not be junked at the end.

The evaluation process is done at regular intervals over the life of the project to judge how effectively it is adhering to the financial objectives and any potential or unforeseen imbalances that could threaten success or the sustenance initiative.

4. DISCUSSION

This section evaluates the model and its potential in addressing the research problem, and demonstrates how this relates to the intellectual context and the real-world context, and emphasizes the novel contribution the study will make to financing new agricultural businesses through Islamic financing structures.

4.1 Interpretation of the Proposed Model and Its Solution to the Problem:

The model provides a novel financing instrument that departs from the conventional approach of Islamic banks in financing the agricultural sector. It transitions from funding individuals (eg, farmers) to funding an entrepreneurial organization entity -- the farm startup -- as an end customer, and that brings with it vision, innovation, and operating efficiency.

This model is fundamentally based on a solution to a problem facing Islamic banks, which is that they are reluctant to apply agricultural partnership formulas due to high risk. Funding a specialized agricultural startup can make a big difference, in that with it, banks can be assured that this or that project is managed in a highly technical way, using “smart tools” (smart farming, pest management, and strain improvement).

This turns the startup into a partner of prevention that reduces the risks more than just assuming them. Compared to the bank, therefore, the bank

owner would now have a partner able to secure the success of the investment relative to agriculture.

This model re-engineers the notion of Islamic modarabas by combining the intellectual and technological capital of the startup with the bank capital, becoming part of the modaraba equation.

The model also addresses the issue of returns, as the start-up engages in productive, profit-oriented economic activity (whether through the sale of crops or the provision of technical services to farmers), making the sharing of cash profits between the two parties a realistic formula that is consistent with the legal and economic framework of Islamic financing contracts.

4.2 Implications of Applying the Model:

The model allows Islamic banks to re-engage in financing productive sectors, particularly agriculture, through Sharia-compliant formulas, while startups provide advanced management and production technologies that reduce operational risks. This contributes to a better configuration of financing portfolios, sustainable returns, and stronger ties between finance and the real economy. For agricultural startups, the model offers targeted financing during high-risk early stages, supporting the scaling and demonstration of innovative technologies in the market. The *matching al-Salam contract* further ensures product sales, weakens market risk, and stabilizes income. At the broader level of the agriculture sector and society, the model enhances productivity through modern, smart, and green practices that reduce resource waste and improve product quality. It also strengthens food security, promotes local production, and creates jobs in agriculture, technology, and entrepreneurship, contributing to sustainable development.

4.3 Agriculture Risks and Innovative Solutions for Startups

Agriculture is an inherently risky and financeable viable endeavor. But agricultural startups can turn these risks into opportunities by capitalizing on innovative solutions, which in turn makes them good partners for Islamic banks. They don't fulfill the role of a traditional insurance co. that indemnifies you against your loss; they are instead a preventative partner who "reduces the problem, and then you don't need insurance" through technology. The following table demonstrates this:

Table 1. Analysis of Risks in Traditional Agriculture and the Role of Startups in Mitigating Them

Agriculture-specific category for Agricultural risk type	Start-up: An innovative fix (examples)	Minimizing risk to the bank and the project
Variability in the climate: droughts, floods, frost, heat waves:	Greenhouses, smart houses, weather & soil sensors, stress-resistant cultivars	Ensures uninterrupted production reduces losses from natural calamities, safeguards bank investment
Insect vector transfer of fungi and viruses:	Drones, cameras, early detection, biological pesticides, vertical farming, forecasting systems	protects crops, avoids costly/injurious chemicals, secures yield and product quality
Water shortage and irrigation efficiency: waste, drought:	Smart sensor-based irrigation, hydroponics, aeroponics, grey water reuse	Conserves resources, maintains efficiency of high-value crops mitigates risk in water-scarce regions
Price and marketing risks (market access, price volatility)	E-commerce platforms, contract farming, blockchain for supply chain transparency	Provides stable/transparent markets, reduces intermediaries, ensures steady income and profit
Low productivity and crop quality: outdated farming methods.	AI-based soil & crop analysis, automation, precision agriculture	Enhances yield and quality, raises producer income, increases project and bank profitability

Source: Prepared by the researchers, based on several sources.

4.4 Steps for Applying the Proposal: A Hypothetical Case Study of "Oasis of the Future" for Smart Agriculture

In order to demonstrate the practical relevance of the model, we will discuss here one entrepreneurial startup: **“Oasis of the Future”**.

This is a smart agricultural company working in the area of smart agriculture, enabling state-of-the-art digital technology and AI catalyst advancements on one side, the farmers' real needs on the other. The company offers integrated crop management solutions combining soil analysis with w/proprietary precision sensors, autonomous irrigation & nutrition, early disease prediction through cloud analytics. This results in

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increased efficiency and less waste and respects the environment.

The 'Oasis of the Future' requires an initial investment of \$2 million (approximately 270 million Algerian Dinars) to pay for developing a second generation of sensor hardware systems, creating an AI platform to process AG data, and establishing a model agricultural unit to fuel the solutions tested in practice. The founding team files for financing by an Islamic bank with a complete technical and financial feasibility study with projections that this innovation will reduce water consumption by 40%, increase crop yield by 20%-30%, and reduce the time to reach production through the crop cycle.

A full project evaluation was carried out by Islamic bank, as part of the Due Diligence process. Through such an in- depth analysis, the job is to check on technical...feasibility (the effectiveness of smart systems in improving agricultural performance), economic feasibility (expected revenues from selling crops or precision agriculture services), and market feasibility (Can the technology be marketed within Algeria or in the region) as well as on the expertise of the team and their approach to risk management.

Having arrived at a favorable evaluation, the bank and "OASIS of the future" conclude a Musharakah agreement. The bank contributes \$1.5M (about 202 million Algerian Dinars), and the start-up \$0.5M (about 68 million Dinars) in cash and/or value in kind, for example, tradesmen of technical knowledge, and appropriate intellectual property of the system. Both receive an equitable share of the profits, calculated according to each of their contributions, as well as the added value of the labor and innovation produced. According to the contract, which "Oasis of the Future" has with the bank, the latter receives 40% of the net profit project management and implementation of smart solutions, and 60% goes to the project. This is consistent with the principle that labor and invention are truly partners in the act of producing. In addition, 5 per cent of the net profits of each party is allocated for contingency against risks of investment. This cover is termed the "Investment Risk Reserve" which makes up 10% of the profits.

In case of an unexpected loss (because of natural or market reasons not attributed to the poor management of the startup) then the loss is shared

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according to the contribution capital ratio (75% by the bank and 25% by the startup) in line with the principle of “al-ghunm bil ghurm” (gain is always associated with risk). The agreement also includes obligations on the start-up to provide frequent operating and technical reports, including reports on model field performance, system efficiency, consumption rates, production rates and financial statements, to the extent necessary to allow for transparency and to achieve proper follow-up.

In order to manage its advertising exposure risk, the bank may conclude an inverse al-Salam contract with the start-up. In this method of finance, the bank makes an initial payment (up to a certain quantity of the anticipated crop) for the coming season’s planned harvest where delivery is in the future. This provides liquidity to the project and ensures the sale of production risk free.

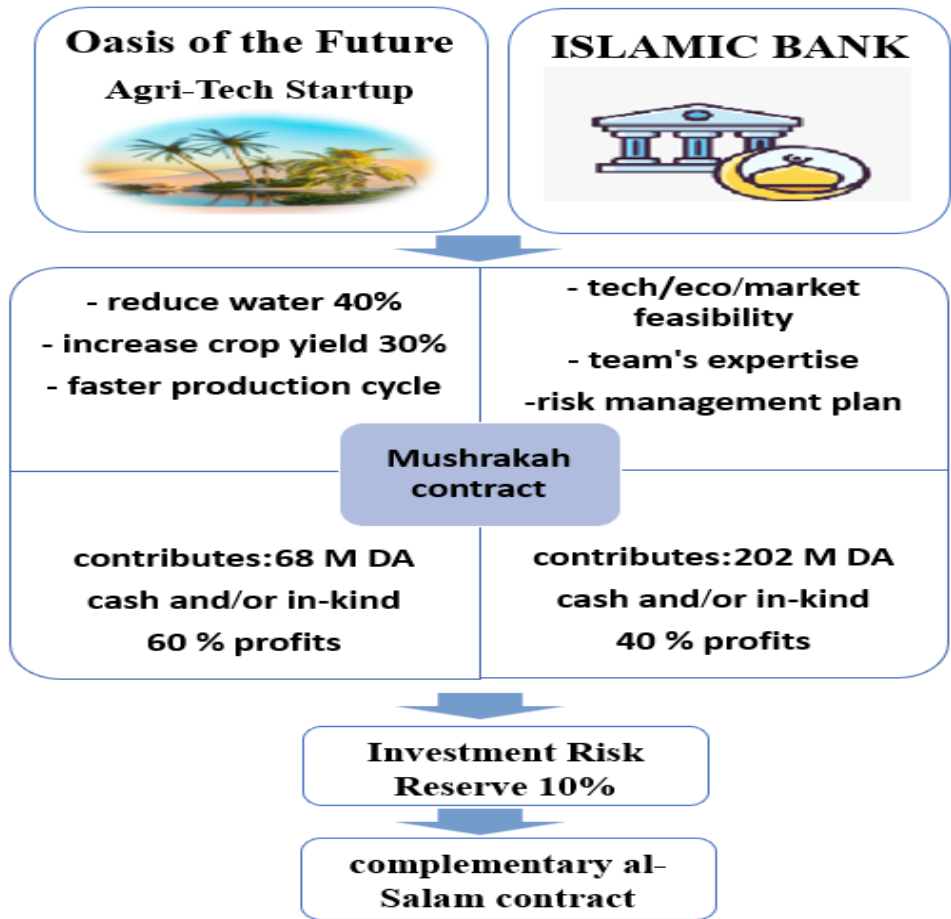
This small experiment is mutually beneficial for both parties:

For the Islamic Bank: It secures halal profits from an inventive and fruitful investment, it limits the risks thanks to rigorous technical monitoring, and it develops its image as a financier of development and innovation.

For the Startup: The money is flexible, non-dilutive and enables it to expand the extent of its experiment, providing a stepping stone for additional partnerships, further capital injection.

For Agricultural and Society: the project helps gradually improve productive performance, economize resources, supply high-quality agricultural products and generate new jobs in the agricultural technology sector in order to enhance and The following figure summarizes this:

Fig.4. The Proposed Islamic Financing Model for 'Oasis of the Future' Smart Agriculture.



Source: Prepared by the researchers

5. CONCLUSION

This research is a good effort to narrow down the gap between the Islamic funding approach and the needs of innovation in the agriculture field in order to ensure sustainability as a fundamental goal.

Testing the Hypotheses:

Result of this study, we can say that hypothesis (H1)."A financing model for agricultural start-up company that is compatible with an Islamic participatory scheme has contributed to agricultural sustainability," is **accepted and its validity has been proven.**

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On responding to the principal research question, the study answers this question by proposing an integrated model that activates Islamic financing mechanisms, by replacing traditional formulas by a model that integrates the agricultural startup through a direct partnership. The findings, represented by the originating example, proved that the model increases sustainability by capitalizing on the startups' innovations, which achieve the cutback on water use, an enhancement in crop yield, and a faster production cycle. This evidence supports the argument that the suggested financing approach is conducive to achieving equitable risk-sharing mechanisms, innovation incentives and improved efficiency of agricultural investment.

By offering recommendations in the form of Islamic contracts – namely (al-Musharakah and al-Mudarabah) and the parallel option of (al-Salam) – the study contributes a roadmap which allows Islamic banks to do so rationally and creatively. This in turn, would enable startups to have sustainable growth to contribute toward their food security needs and Sharia's economy.

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